Title (en)

FAULT DIAGNOSIS METHOD OF SUPERCHARGED MOTOR AND SUPERCHARGED MOTOR

Title (de)

VERFAHREN ZUR FEHLERDIAGNOSE EINES AUFGELADENEN MOTORS UND AUFGELADENER MOTOR

Title (fr)

PROCEDE DE DIAGNOSTIC DE DEFAILLANCE D'UN MOTEUR SURALIMENTE ET MOTEUR SURALIMENTE

Publication

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Application

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Abstract (en)

[origin: WO2012143630A1] The invention proposes a diagnostics method for diagnosing failure in a supercharged engine. A first estimated value of the power of the turbine is calculated from a first set of parameters which are associated with the engine air inlet circuit, including at least the air pressure at the inlet to the compressor, the boost pressure, the mass flow rate of air passing through the compressor and the temperature of the air at the inlet to the compressor. A second estimated value is calculated from a second set of parameters some of which are associated with the circuit that exhausts the burnt gases from the engine. This set includes at least the pressure of the exhaust gases at the outlet from the turbine, the mass flow rate of gases passing through the turbine, the temperature of the gases at the inlet to the turbine, a position of the actuator that actuates the turbine vanes, and the rotational speed of the turbocompressor. The invention plans to calculate the ratio of the second estimated value divided by the first estimated value, and to compare this ratio against a predefined threshold, beyond which it is concluded that the supercharged engine has failed. The driver is then alerted, for example by illuminating an indicator lamp on the instrument panel of the vehicle. The invention also proposes an internal combustion engine equipped with a variable-geometry turbocompressor, that is capable of implementing the failure diagnostics method.

IPC 8 full level

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Citation (search report)

See references of WO 2012143630A1

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CN108885154A; FR3115824A1; US10920907B2; WO2022096354A1

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